

ABSTRACT

5 In a method for forming an interlayer dielectric film, an insulating film is deposited
on a semiconductor substrate that has a metal wiring pattern. The insulating film is polished
by CMP until exposing an upper portion of the wiring pattern. A spin on glass composition,
which includes polysilazane, is coated over the polished insulating material and exposed
portions of the wiring pattern to form a film. The film is then pre-baked in a temperature
range of 50 to 350° C, and then hard-baked in a temperature range of 300 to 500° C. After
10 the hard-baking, the film is then heat-treated in an oxidation atmosphere. With the hard-
baking, gasses of the coating of film may be removed so that the amount of gas generated
during a subsequent anneal or heat-treating process may be reduced. Accordingly, particle
contaminants may be reduced by such process in addition to providing a means for reduced
risk of crack formation.